

# SERVICE DATA

## Model TD-860B



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### SPECIFICATIONS

Type	: 2-speed, belt drive auto-return record player
Turntable Platter	: 300mm, aluminium alloy diecast
Motor	: One 4-pole synchronous motor
Power Source & Consumption	: AC 220V 50Hz 10W, 240V 50Hz 10W
Speeds	: 33-1/3 45 rpm
S/N Ratio	: 60dB
Wow & Flutter	: 0.08% (WRMS)
Pickup Arm	: Static-balanced type tubular arm
Arm Length	: 215mm
Overhang	: 10mm
Standard Accessories	: 45 r.p.m. adapter Oil Operating instructions
Dimensions	: 429 (W) x 366 (D) x 148 (H) mm
Weight	: 5Kg (net)

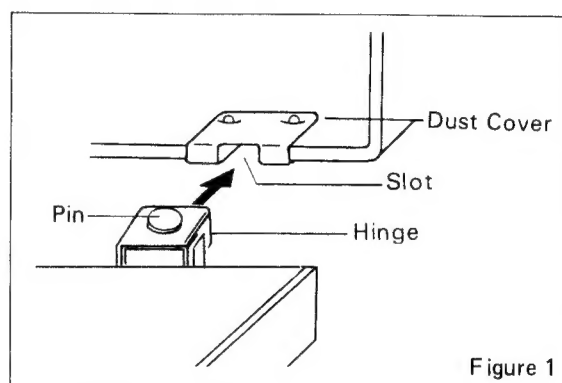
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### DISASSEMBLY INSTRUCTIONS

To remove Dust cover (Figure 1)

1. Open the Dust cover.
2. Slide the hinge as illustrated.

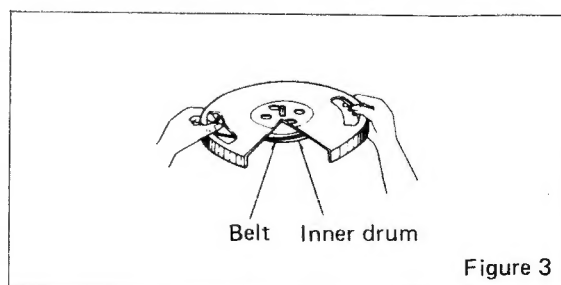
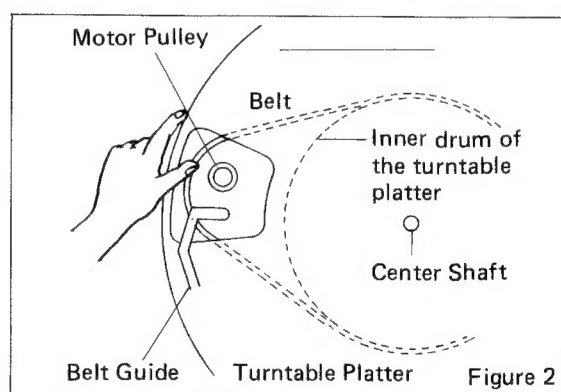


To remove Bottom board

1. Remove eight screws on the Bottom board and remove the Bottom board assembly.
2. It's possible to service from the bottom of the unit.

To remove and replace Drive belt (Figure 2)

1. Removal of belt
  - (A) Remove the rubber mat. Disengage the belt from the Belt guide and Motor pulley through the cutout in the Turntable platter.
  - (B) Hold the belt with your finger through the cutout in the Turntable platter and pull the Turntable platter up from the Center shaft.
2. Replacement of Drive belt (Figure 3)
  - (A) Hold the belt with your left thumb through the cutout provided in the Turntable platter. Place the belt on the inner drum of the Turntable platter.
  - (B) Hold the Turntable platter horizontally, insert it on the Center shaft carefully and engage the belt with the Motor pulley making sure that the belt is not twisted. Release your left thumb from the belt.
  - (C) Engage the belt with the Belt guide.
  - (D) Put the rubber mat in place.



## ADJUSTMENTS

### Adjustment of Arm lifter height (Figure 4)

1. To adjust height of stylus tip when using the cueing, loosen the Set screw of the Arm lifter.
2. Adjust the height of the Arm lifter so that the distance between the stylus tip and record is about 8mm when a record is placed on the Turntable platter.
3. After the adjustment, tighten the Set screw securely.

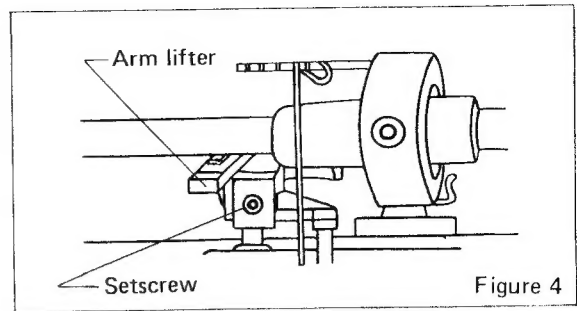


Figure 4

### Adjustment of motor pulley height (Figure 5)

1. After replacing motor or motor pulley, check the height of the motor pulley.
2. Align the center of the 33 rpm or 45 rpm pulley with the center of the belt guide (with speed selector in corresponding positions), and then tighten the mounting screw.
3. The motor pulley should then be approximately 2.5mm above the motor.

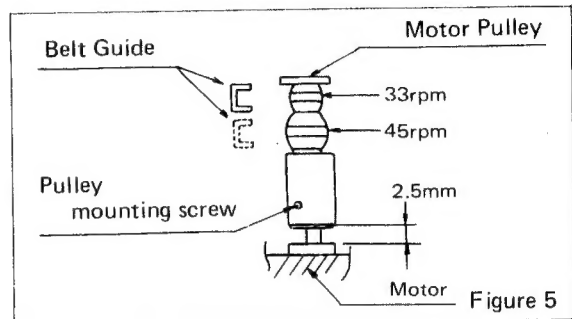


Figure 5

### Adjustment of auto-return (Figure 6)

If the pickup arm moves up and performs auto return operation after the end of the performance rotate adjusting screw C counterclockwise. If the pickup arm automatically returns before the end of the performance, rotate screw C clockwise.

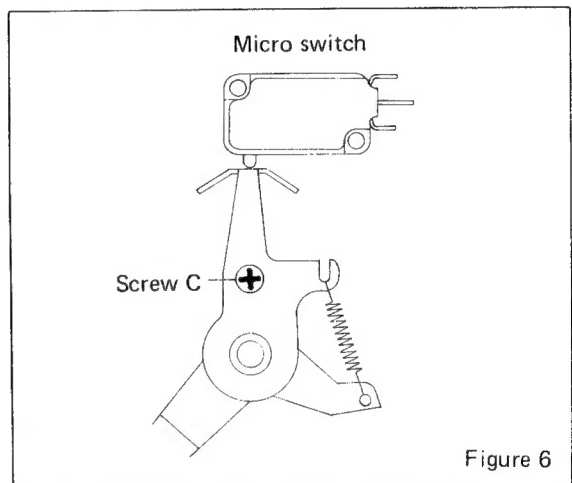


Figure 6

## MAINTENANCE

Whenever a Turntable platter is brought in for service or repair. It should be cleaned and lubricated.

### 1. Lubrication (Figure 7)

Remove the Turntable platter as described previously in "Removal of Belt" and apply three or four drops of oil to the point shown in figure 7. Be sure to avoid contact with the pulley or belt when lubricating. If these become oily, wipe clean with soft cloth dipped in ethyl alcohol.

### 2. Cleaning of Drive mechanism

Clean the Motor pulley, belt and inner drum of Turntable platter with soft cloth dipped in ethyl alcohol.

Dirt on these parts may cause wow, flutter and rumble.

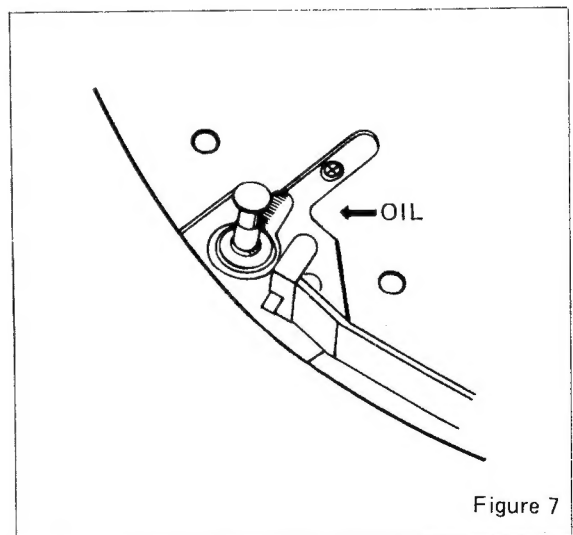


Figure 7

## TROUBLE-SHOOTING GUIDE

### Turntable platter

Trouble	Cause	Remedy
Slow rotation.	<ol style="list-style-type: none"> <li>1. Oil or dirt on belt (10) causing slippage</li> <li>2. Center shaft (17) is binding.</li> <li>3. Belt touches the belt guide. (28)</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean the motor pulley (6) belt (10) with alcohol.</li> <li>2. Disassembly and clean then apply lubricant.</li> <li>3. Push the top of the motor pulley (6). If this does not remedy, adjust the height of the pulley (6)</li> </ol>
Excessive variation of rotation.	<ol style="list-style-type: none"> <li>1. Oil or dirt on belt (10), causing slippage</li> <li>2. Loose belt (10).</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean the motor pulley (6) and belt (10) with alcohol.</li> <li>2. Replace belt (10).</li> </ol>
Improper interchanging function of belt.	<ol style="list-style-type: none"> <li>1. Oil or water on driving mechanism.</li> <li>2. Loose belt (10).</li> </ol>	Same as above.

### Motor

Trouble	Cause	Remedy
Motor does not rotate.	<ol style="list-style-type: none"> <li>1. No power to motor (5).</li> <li>2. Motor coil is open, shorted or burned.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check leads of power circuit, plug, power switch.</li> <li>2. Replace.</li> </ol>
Abnormal high temperature of motor.	<ol style="list-style-type: none"> <li>1. Poor insulation of the inside of motor (5).</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace.</li> </ol>
Slow rotation.	<ol style="list-style-type: none"> <li>1. No oil.</li> </ol>	<ol style="list-style-type: none"> <li>1. Lubricate.</li> </ol>

### Pickup arm

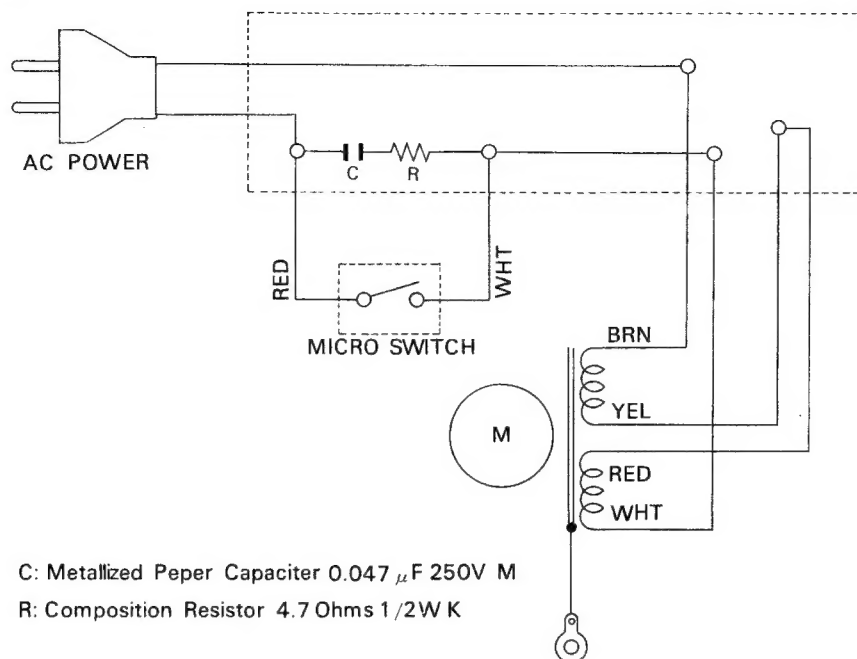
Trouble	Cause	Remedy
Stylus causes jumping or improper tracking.	<ol style="list-style-type: none"> <li>1. Stylus pressure too light.</li> <li>2. Stylus worn out or damaged.</li> <li>3. Horizontal movement of pickup arm (42) is heavy.</li> <li>4. External vibration.</li> <li>5. Cartridge (43) case touches the surface of record.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust for specified pressure.</li> <li>2. Replace stylus.</li> <li>3. Disassemble the pickup arm shaft and clean.</li> <li>4. Install the player where there is no vibration.</li> <li>5. Excessive stylus pressure. Adjust for specified value.</li> </ol>

### Sound

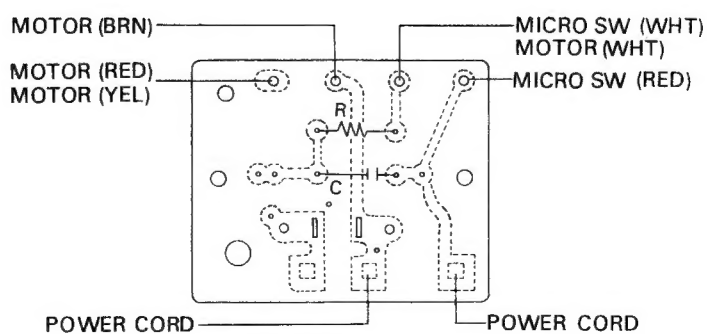
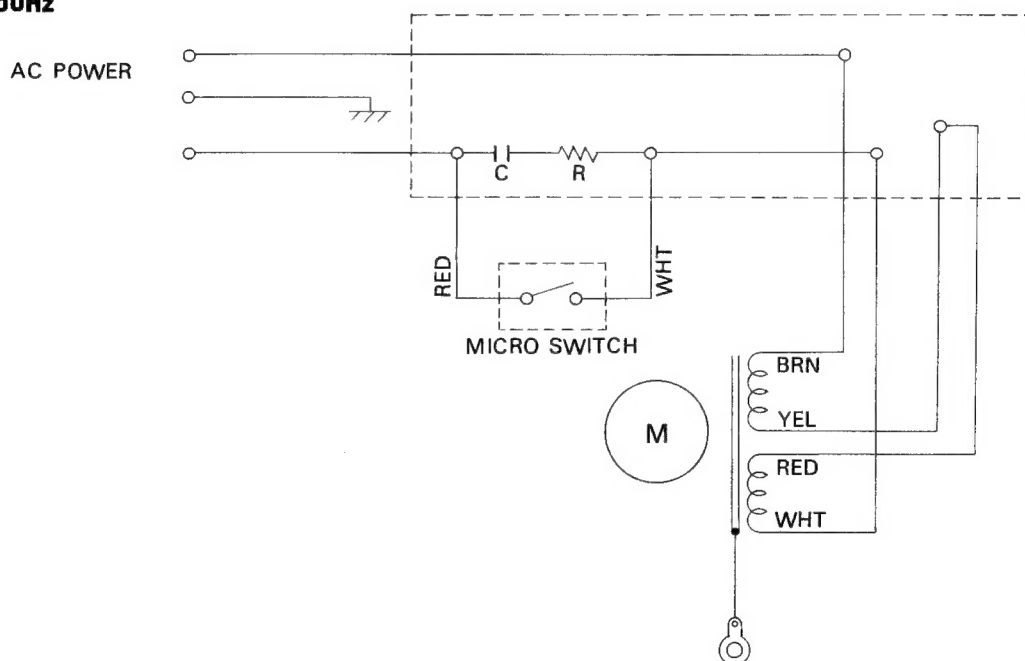
Trouble	Cause	Remedy
No sound, or only from one channel.	<ol style="list-style-type: none"> <li>1. Cartridge (43) circuit open.</li> <li>2. Improper connection of head shell and pickup arm (42).</li> <li>3. Open lead between head shell and output cord or mis-wiring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace cartridge. (43) Repair leads.</li> <li>2. Correct the connection. Check that the connected part is free from oil, dust, etc. and clean.</li> <li>3. Replace the lead (if the pickup arm (42) lead is open, replace the pickup assembly) or correct wiring.</li> </ol>
Distorted sound.	<ol style="list-style-type: none"> <li>1. Stylus worn out or damaged.</li> <li>2. Cantilever bent.</li> <li>3. Stylus pressure too light or heavy.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace stylus.</li> <li>2. Replace stylus.</li> <li>3. Adjust for specified pressure.</li> </ol>
Rumble.	<ol style="list-style-type: none"> <li>1. Motor touches the motor sheet (7).</li> <li>2. Oil or dirt on belt. (10)</li> <li>3. Belt touches the belt guide. (28)</li> </ol>	<ol style="list-style-type: none"> <li>1. With the motor transit screw removed, press the top of the motor pulley (6) so that the motor (5) is floating on the rubber cushion.</li> <li>2. Clean the motor pulley, belt (10) and turntable with alcohol.</li> <li>3. Press the top of the motor pulley (6). If this does not remedy, adjust the height of the motor pulley. (6)</li> </ol>
Wow.	<ol style="list-style-type: none"> <li>1. Oil or dirt on belt. (10)</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean the motor pulley (6), belt and turntable platter (11) with alcohol.</li> </ol>
Hum.	<ol style="list-style-type: none"> <li>1. Cartridge (43) is affected by magnetic field.</li> <li>2. Imperfectly connection of DIN plug.</li> </ol>	<ol style="list-style-type: none"> <li>1. Keep any equipment such as motor (5) or transformer away from the player.</li> <li>2. Connect DIN plug perfectly.</li> </ol>
Howling.	<ol style="list-style-type: none"> <li>1. Cartridge picks up vibration or sound pressure from speaker.</li> </ol>	<ol style="list-style-type: none"> <li>1. Install the player on a rigid table or change the turntable location until howling is minimized.</li> </ol>

# SCHEMATIC DIAGRAM

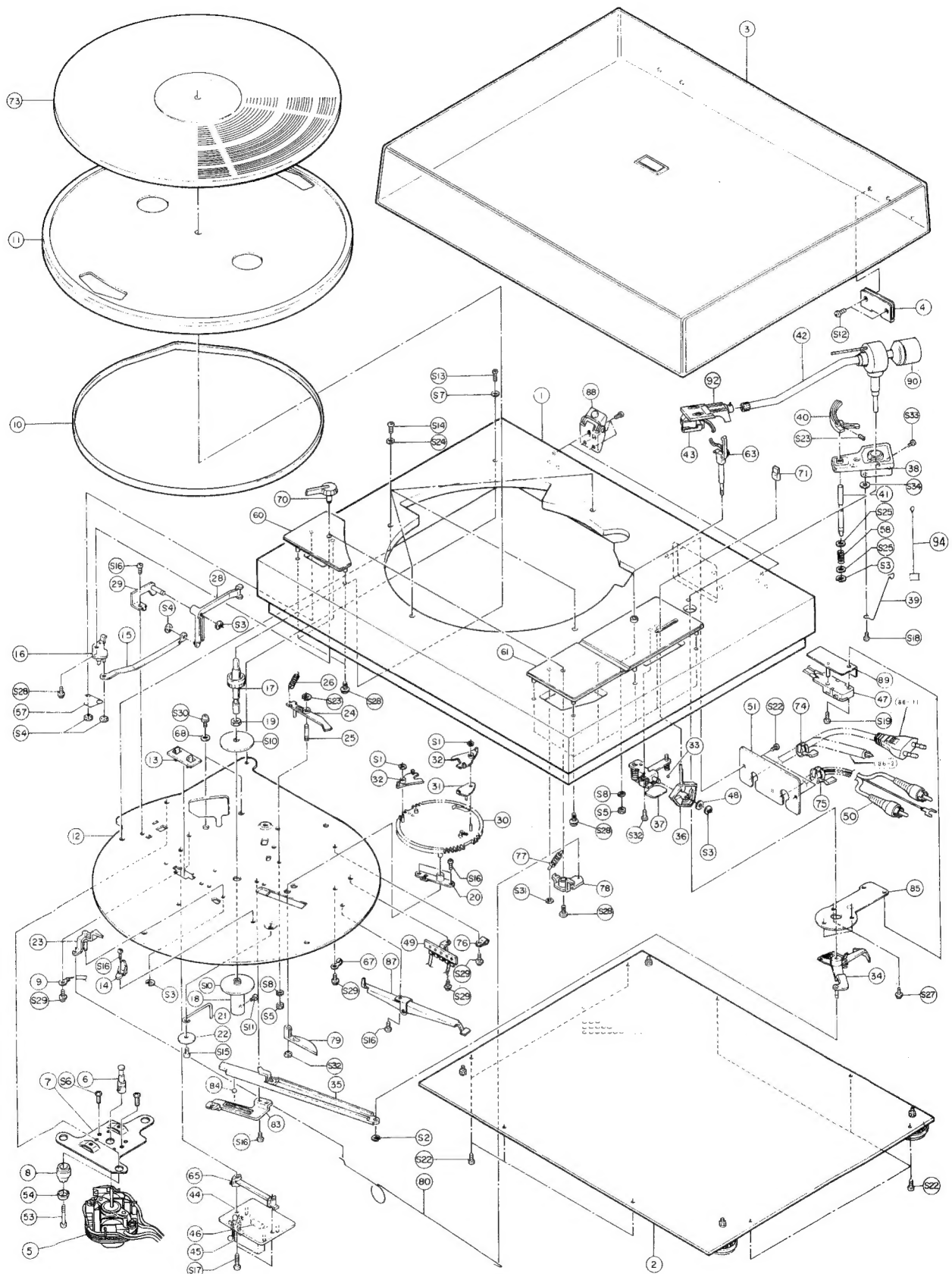
For 220V / 50Hz



For 240V/50Hz



# EXPLODED VIEW



## PARTS LIST

Key No.	Part No.	Description
1	20847911	Cabinet
2	20826743	Bottom Board Assembly
3	20847934	Dust Cover
4	20861690	Hinge
5	22125540	Motor
6	20716702	Motor Pulley
7	20743940	Motor Sheet
8	20881722	Rubber Cushion
9	22166232	Lug Cord
10	20728611	Belt
11	20723683	Turntable Platter
12	22711735	Chassis
13	22854659	Switch Screen
14	20746861	Chassis Stay
15	20754626	Connector Plate
16	20753934	Selecter Plate
17	20725689	Center Shaft
18	20725660	Table Bearing
19	20796631	Special Nut
20	20773767	Gear Bearing
21	20764702	Return Rod
22	22752858	Special Washer
23	20751753	Rejecter Lever Assembly
24	20746737	Gear Stopper
25	20763824	Stopper Shaft
26	22771966	Pull Spring
28	22743554	Belt Guide
29	20751705	Guide Bracket
30	20727638	Main Gear
31	20751704	Auto Trip
32	20754667	Clutch
33	74090318	Steel Ball 1/8
34	20751777	Pickup Plate Assembly
35	20753931	Auto Lever
36	20757686	Lifter Cam
37	20753884	Lifter Lever Assembly
38	20735641	Pickup Stand
39	20764685	Canceler Pole
40	20761658	Lifter Bar Assembly
41	20764671	Lifter Shaft
42	20731828	Pickup Arm
43	22155326	Cartridge
44	22143107	Supply P.C. Board
45	22330114	Metallized Paper
46	22547479	Capacitor 0.047 $\mu$ F/250V Composition Resistor 4.7 ohm, 1/2W
47	22146335	Micro Switch
49	22161510	Terminal 2E2
50	22164765	Plug Cord USIP
51	22755518	Cord Support
53	22764686	Shaft
54	20746631	Cushion Holder
57	20707692	Torsion Spring
58	22771961	Push Spring
60	20741783	Selecter Base

Key No.	Part No.	Description
61	20741793	Rejecter Base
63	20738654	Pickup Rest Assembly
65	20746853	P.C. Board Stay
66	20975612	Band
67	22184125	Clamp Lug
70	20871866	Knob
71	20741741	Lifter Knob
73	20723649	Rubber Mat
74	22185131	Bush (For 240V)
	22185129	Bush (For 220V)
75	20881802	Bush
76	22184148	Cord Clamp
77	20705634	Pull Spring
78	20753933	Rejecter Plate
79	20757701	Return Cam
80	20707691	Rejecter Pole
83	22754857	Ball Holder
84	83090372	Steel Ball 5/32
85	20753932	Switch Plate
86-1	22176529	Power Cord (For 220V)
86-2	22177068	Power Cord (For 240V)
87	20753888	Seesaw Lever Assembly
88	20861691	Hinge
89	22748761	Barrier
90	22184166	Cord Clamp
91	20731771	Main Weight
92	20731872	Head Shell
93	22184156	Clamp Cord
94	20731836	Canceller Weight
S10	20791937	Special Washer